Anatomy of a Custom Built Rod

Part 2 – Blank Selection

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Note that the opinions and explanations expressed below are based on personal experiences and are not typical to every custom rod builder.

The most important step in the process of building a custom fishing rod is blank selection. There are thousands of options with hundreds of manufactures for any type of fishing and budget. Blanks have several properties that need to be considered during the selection process. Some of the main properties include action, weight, length, power, material and number of pieces. The following is a more in depth look at these properties and what they represent in terms of identifying a fishing rod.

- **Action:** The action of the blank refers to how it bends when a force is applied to it either by casting bait or by the pulling of a fish. The four main categories are extra-fast (x-fast), fast, medium and slow. A fast action blank will only bend at the top 1/3, where a moderate blank will tend to bend about halfway. A slow action blank will bend throughout the entire length. The properties that determine the action of the blank include the material, wall thickness and taper of the blank. Not all blank manufactures use the same ranges or characteristics to determine if a specific blank is x-fast or fast. In fact, these can change even within a group of blanks from the same manufacturer. For example, a fast fly rod is slower than a medium spinning rod.

  - **X-Fast** – These are extremely stiff blanks where only the very tip will bend. These types of blanks are better suited for building rods that will be fished under heavy cover and where casting distances and accuracy is not a top priority. For example, if an angler is flipping or pitching baits for bass in heavy cover, the x-fast blank will allow the anger to set the hook on a fish and pull the fish out of the cover. Another ideal situation where an x-fast action blank is used is when an angler will be fishing with Texas or Carolina rigged worms and jigs as they will be able to sense the light strikes.

  - **Fast** – Blanks with a fast action tend to bend at the top 1/3 section of the blank. These blanks will allow for a more accurate cast and maintain the sensibility to detect small bight while at the same time, provide enough backbone for a solid hook set.

  - **Medium** – A medium action blank will bend from the tip to approximately half way down the blank. These blanks are

better suited for longer, more accurate cast and are ideal for fishing with live bait or smaller and lighter artificial lures. The flexibility of the blank will prevent the hook from tearing out of a live bait and reduce the chances of losing a fish with a soft mouth. Certain fish, such as the Sea Trout, have a thin skin around their mouths and the hook tends to rip that skin as the angler fights the fish. Any slack in the line will allow the hook to come free from the fish's mouth. The ability to bend and give in to a fighting fish, provides the angler with sufficient flex in the rod to reduce the tearing of the fish's mouth.

  - **Slow** – Blanks with a slow action bend from the tip throughout the entire length of the blank, down to the handle. They are also known as "parabolic" blanks. These blanks tend to absorb the fast and quick runs of a hooked fish and reduce the chances of breaking lighter lines, especially during short daintiness. Slow action rods can cast further than the previous four types; however, due to the flexibility of the blank and the stretching of the line, setting a hook is much more difficult.

- **Weight:** The weight of a blank is typically measured in ounces or grams. This property is extremely important in rods that will be fished for a long period of time. The lighter the blank and components, the less energy an angler has to use in carrying the rod on long fishing trips. On rods such as trolling or stand-up, the weight is less important since the rod is placed in a rod holder for most of the day.

- **Length:** The length of a blank can be selected depending on the type of fishing and even be just the preference of the angler. For example, an angler fishing inshore can effectively fish with a 6'-6" or 7'-0" rod. There are certain scenarios that require a more specific rod length. A surf rod is typically longer (9 feet or more) that an inshore rod. The added length allows the angler to cast the bait further distances since it is being done from the shore. Keep in mind that torque is equal to length multiplied by force applied perpendicular to the axis. Therefore, the longer the rod, the greater the torque applied to the anger by a fighting fish. Due to this, IGFA has strict regulation on the minimum length of a rod from the center of the reel seat to the tip of the rod. They also regulate the distance from the center of the reel seat to the butt or gimbal of the rod. These regulations are mainly important if the anger is to catch a world record fish. Otherwise, the rod is built to the customer's specifications.

- **Power:** Much like 'action', power is directly related to the material, thickness, taper and wall thickness of the blank. The power of the blank is categorized by the line rating (amount of force needed to reach the breaking point) of the line that the blank was designed to handle. In most cases, power is also closely related to the weight of the lure a rod is designed to be fished with, measured in ounces.

The following table illustrates the different power ratings with the corresponding line rating and lure weight. These numbers represent the average and can vary between manufactures.

Power	Line Rating	Lure Weight
heavy	15 to 25lb test	1/2 - 1 1/2oz
medium heavy	8 to 14lb test	1/2 - 1 1/2oz
medium	4 to 12lb test	1/8 - 3/8oz
light	4 to 8lb test	1/32 - 1/8oz
ultra-light	1 to 4lb test	1/64 - 1/16oz

- **Material:** Blanks come in different materials and can be made of graphite, fiberglass, a combination of both called composites and even wood, more specifically, bamboo. Explanation of the different materials can get very technical and include properties such as modulus of elasticity and tensile strength. For this exercise, a more general description of each material will be provided for the purpose of blank selection.

  - **Graphite:** Graphite, also known as carbon, is an extremely strong, light and sensitive material. Unfortunately, the same properties that make this such a great material also make it very brittle and very expensive. Due to this, graphite rods are easier to break due to careless handling or improper use.

  - **Fiberglass:** Are heavier and more flexible than graphite. This makes the rod less sensible and harder to detect smaller bites. An advantage to fiberglass is that the properties that make it flexible also make it less brittle than graphite and much harder to break. Fiberglass blanks are then broken down into two categories, E-Glass and S-Glass. E-Glass has been around for over 60 years and is used in over 90% of fiberglass rods. Its properties make it a strong and durable material with the downside of added weight. S-Glass is an improvement to E-Glass and produces lighter, more sensitive fiberglass blanks. It can also be constructed to have a thinner wall thickness, thus reducing the weight of the blank and increasing the risk of breakage.

  - **Composite:** Most blank manufactures are now blending graphite and fiberglass to create a composite material for blank manufacturing. These blanks tend to have the best of both worlds. They are lighter, more sensitive and more durable without the added cost of graphite exclusive blanks.

- **Number of pieces:** When selecting a blank, the number of sections that a rod can be broken down to, is extremely important; especially for an angler who plans on traveling with his or her own fishing equipment. Blanks come in a variety on number of pieces ranging from one all the way up to five pieces. The most common number is either one or two pieces. The pieces can all be of equal length, or in some cases, only the handle is removed.

Final Blank Selection: Now that we have covered the more important characteristics of a blank, how do you decide on a blank for a specific style of fishing? If the angler relies solely on the custom rod builder, he or she will be able to give the angler recommendations on which blank to use. However, some anglers already have an idea on what works for them and it can be different from any guideline or table one can find on the internet or in any rod building book. Keep in mind that all of these are guidelines and a custom built rod is just that, custom built.

Next: Part 3 – Grips and Handle Options

Thank you for your time and hope to hear from you soon,

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